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THE GRADING OF CANNING CROPS

IN

PENNSYLVANIA

- Season of 1935 -

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Bureau of Markets
Department of Agriculture
Harrisburg

Commonwealth of Pennsylvania
Department of Agriculture
Harrisburg

D. M. James
Bureau of Markets

THE GRADING OF CANNING CROPS IN PENNSYLVANIA

Pennsylvania growers received the greatest cash income in 1935 ever received from the sale of canning crops. These crops had an estimated farm value of approximately twenty million dollars. Acreages of tomatoes and peas were the largest on record, the total for all truck crops was the largest and the pack of fruit products was the largest ever produced in the Keystone State.

Pennsylvania canned products have gained additional prestige in the high quality field. One of the most outstanding developments of 1935 in the Pennsylvania canning industry was the demonstration that peas of a quality second to none can be produced and processed in this State. Another development of importance is the extension of the canning industry to new sections of the state which are apparently well adapted to the growing of canning crops.

In reviewing the cannery products grading in the pages that follow, the steady growth of this standardization work will be apparent. Probably the most significant feature of grading is in the fact that growers and canners are both benefited by it. Canners gain by lower costs of production and in higher quality of the finished product. The growers receive greater income per ton and per acre for the canning crops they grow. Table 7 shows a comparison of the prices received for tomatoes, corn and peas which were sold in Pennsylvania on the basis of grades in 1935, as against prices received for the crops sold ungraded. The increased returns in favor of graded sales equal 20% for tomatoes, 22% for corn and 20% for peas.

The Extension Service of Pennsylvania State College has assisted many growers in the production of high quality truck crops for canning. Beneficial results of this assistance have been noticeable in the improved grade of raw stock grown in those sections where demonstrations were held. Canners and growers could both profit through greater use of the educational services made available through the Extension Service.

The following table shows the volume of inspected cannery products each year since 1929. This work started in 1927, when 235,000 pounds of tomatoes were experimentally classified. During the following year, 1928, 8,842,000 pounds of apples, grapes and tomatoes were graded. In 1935 this figure increased to the all time high of 102,734,348 pounds.

* * * * *

Table 1 - Inspection of Fruit and Truck Crops for Manufacture in Pennsylvania 1929 - 1935

Crop	1935	1934	1933	1932	1931	1930	1929
	(pounds)	(pounds)	(pounds)	(pounds)	(pounds)	(pounds)	(pounds)
Totals	102,734,348	74,920,373	46,715,964	68,696,624	53,453,839	43,792,819	13,487,955
Apples	48,232,959	35,552,996	22,982,822	41,792,184	32,114,069	36,453,499	8,956,008
Cherries	4,997,500	2,051,244	307,062	657,203	2,479,124	2,710,000	-------
Corn	1,193,172	-------	-------	-------	-------	-------	-------
Grapes	9,108,571	6,396,760	3,400,000	3,914,000	5,176,000	3,004,700	1,801,784
Peas	1,044,326	-------	-------	-------	-------	-------	-------
Berries	-------	12,145	19,200	-------	-------	-------	-------
Gr.Beans	-------	-------	-------	112,021	320,322	131,675	373,407
Tomato.	38,157,829	30,907,228	20,006,876	21,694,216	13,364,324	1,492,945	2,356,756

* * * * *

BULK APPLE GRADING - 1935

For the sixth consecutive year, practically the entire tonnage of apples purchased in the state for canning, were purchased on the basis of federal grades. In addition to canning stocks, apples delivered for sale as fresh were classified for grade at several packing houses.

Table 2, which follows, shows the percentage of barrelling apples, canning apples and ciders purchased in Pennsylvania since 1930. This table does not portray the quality of the entire Pennsylvania crop each year, but rather the quality of stock which is being purchased by the by-products plants. A large part of the "barrelling apples" listed are being packed in barrels or bushels for sale as fresh fruit.

Table 2 - Average Classification of Pennsylvania Bulk Apples - 1930 - 1935

Grades	1935	1934	1933	1932	1931	1930
BARRELLING APPLES (U. S. No. 1 and Commercial)	% 25	% 23	% 23	% 13	% 36	% 28
CANNING APPLES (Cannery No. 1 and No. 2)	63	70	66	72	41	54
CIDER APPLES	12	7	11	15	23	18

* * * * *

TOMATO GRADING - 1935

The ninth season of tomato grading in Pennsylvania showed an increase of approximately 25% over the 1934 tonnage and 90% over the 1933 tonnage. In addition 3,361 acres of tomatoes from counties in eastern Pennsylvania were Federal-State inspected at the Campbell Soup Company, Camden, New Jersey.

Inspectors were located at 13 tomato canneries in Pennsylvania as follows:

Bloomsburg Packing Company	Bloomsburg, Pa.
Burgoon & Yingling	Gettysburg, Pa.
Girard Canning Company	Girard, Pa.
Hanover Canning Company	Hanover, Pa.
Littlestown Canning Company	Littlestown, Pa.
C. H. Musselman Company	Biglerville, Pa.
Myers Canning Company	Spring Grove, Pa.
North East Preserving Works	North East, Pa.
Shenk & Bowman	Newville, Pa.
B. F. Shriver Company	Littlestown, Pa.
G. Bartol Silver	Christiana, Pa.
W. Scott Silver	Nottingham, Pa.
Welch Grape Juice Company	North East, Pa.

The average quality of the 1935 tomato crop was nearly identical with the quality of graded tomatoes in 1934. Table 3 shows the average grades in 1935 with comparisons each year back to 1927.

Table 3 - Classification of Graded Tomatoes in Pennsylvania - 1927 - 1935
(Weighted Average Percent)

	1935	1934	1933	1932	1931	1930	1929	1928	1927
N. S. No. 1	61	61	51	52	46	42	54	41	51
U. S. No. 2	35	34	43	43	45	54	42	51	39
Culls	4	5	6	5	9	4	4	8	10

Figures for 1934 and 1935 do not include several canneries purchasing on basis of U. S. Standards for Strained Tomato Products (Juice and pulp grades), which average considerably higher.

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Table 4 gives the average grades of tomatoes purchased in 10 states in 1935. It will be noted that the Pennsylvania average is almost identical with the group average.

Table 4 - Comparison of Tomato Quality in 10 States
(1935 - Season)

	PERCENT U. S. No. 1	PERCENT U. S. No. 2	PERCENT Culls
State A	35	57	8
" B	59	38	3
" C	60	37	3
" D	61	34	5
" E	62	35	3
" F	62	32	6
" G	64	29	7
" H	71	27	2
" I	75	20	5
PENNA. AVERAGE	61	35	4
10 STATES AVER.	61	34	5

This information furnished by the U. S. Bureau of Agricultural Economics.

* * * * *

Table 6 shows the average grading at Pennsylvania canneries in 1935, prices paid for No. 1's and No. 2's and average season prices paid. The average price received by Pennsylvania tomato growers selling on the grade basis (including 3,361 acres grown in Pennsylvania for New Jersey cannery) was $14.12 a ton compared to an average price of $11.70 a ton for Pennsylvania tomatoes sold flat rate. Last year the average graded price was $13.70 and the average flat price was $11.75. Only one cannery in the state averaged a lower return to the growers on a graded basis than on the flat rate average price. This cannery offered $13.00 for U. S. No. 1 and $7.00 for U. S. No. 2. These prices were not in line with the prevailing contract prices in the state last year.

Table 5 — Season Average Classification 1935 — Prices Paid per Ton for U. S. No. 1 and U. S. No. 2 Tomatoes and Season average at Pennsylvania Canneries - 1935

	U. S. No. 1	U. S. No. 2	Culls	U. S. No. 1	U. S. No. 2	Average
Cannery A	63%	34%	3%	$18.00	$10.00	$14.74
" B	62	35	3	16.00	8.00	13.52
" C	58	40	2	16.00	9.00	12.88
" D	65	29	6	16.00	8.00	12.65
" E	87	8	5	13.00	13.00	12.35
" F	62	34	4	17.00	10.00	13.94
" G	58	36	6	15.00	10.00	12.30
" H	75	23	2	13.00	7.00	11.36
" I	63	35	2	17.00	10.00	14.28
" J	91	4	5	13.00	13.00	12.80
" K	45	51	8	18.00	10.00	12.56
" L	56	38	6	17.00	10.00	13.32
" M	52	31	6	18.00	10.00	13.30
PENNA. AVERAGE	61	34	5	16.00	10.00	14.12*
N. J. AVERAGE	58	39	3	18.00	10.00	14.34

* Includes price received for Penna.-grown tomatoes delivered to N. J. Cannery.

Table 6 shows the comparison of prices received in Pennsylvania in 1935 for graded and ungraded tomatoes, corn and peas. The data from which these figures were computed were secured from the U. S. Department of Agriculture, Division of Crop Estimates.

Table 6

	Aver. Graded Price	Aver. Ungraded Price	Additional Return In Favor of Grading	Percent Increase
	Per ton	Per ton	Per ton	Per ton
Tomatoes	$14.12	11.70	$2.42	20
Corn	14.08	11.50	2.58	22
Peas	64.40	53.80	10.60	20

TEN-TON TOMATO CLUB RECORDS - 1935

Ten-Ton Tomato Clubs were organized in Pennsylvania by the Extension Service of State College in 1935. The results were most gratifying and give proof that many sections of Pennsylvania are well adapted to the growing of large crops of high quality tomatoes. The following records are reprinted through the courtesy of the author, J. M. Huffington, Division of Extension, The Pennsylvania State College.

Distribution

By Counties -

Lancaster	- 21	Northumberland	- 2
Bucks	- 9	Columbia	- 1
Union	- 4	Luzerne	- 1
Franklin	- 3	Montour	- 1
Cumberland	- 2		
		STATE TOTAL	- 44

Fertilizer

Applied by 41 of 44 who qualified. 300 to 1000 pounds, averaging 680 lbs. 22 growers broadcast; 14 applied in the row of which 10 followed with a top dressing; 5 other growers applied top dressing only.

Soil Preparation

Harrowed - 32, Disced - 29, Rolled - 15.

Plants

Locally grown plants were used by 42 growers. Thirty of these used plants started under glass and transplanted or "spotted" in a cold frame. Nine other fields were set with field grown plants and three with plants grown under muslin or tobacco cloth. Southern plants were used by six growers but four of these also used locally grown plants.

Planting

Thirty-one fields were transplanted by May 31 and the other thirteen by June 5th. Fourteen square feet was the spacing used by 18 growers, 15 square feet

Planting - cont.

by 5, and 16 square feet by 10 other growers. Water was applied in setting plants by 29 growers. One-half the fields were set by hand and the others with a transplanter.

Cultivation

Twenty-three growers cultivated five times, seven cultivated four times, five cultivated three times and four cultivated six times. Twenty-two growers weeded by hand.

Spraying

Five growers sprayed or dusted to control insects.

Rotation

1933 -- Sod in 28 fields. 1934 -- Corn in 22 and and sod in 12 fields.

Manure

Applied on 41 farms at an average rate of 6-1/3 tons per acre. Twenty growers applied 10 tons per acre, others varied the application from nothing to 18 tons per acre.

SOUR CHERRY GRADING -- 1935

The volume of cherries purchased on the basis of grades in Pennsylvania during 1935 was nearly 2-1/2 times the 1934 figure. Practically all cherries being purchased by canners and cold-packers in the state are being bought under the Federal grades.

CORN GRADING

The first corn grading in the state was successfully carried on at a Columbia County cannery in 1935. A total of 1,118,180 pounds of corn were received from 600 acres on the basis of $16.00 a ton for U. S. No. 1, Class A quality and $8.00 a ton for U. S. No. 1, Class B. Generally high quality corn was delivered after the first few days of the season. During this period, many growers pulled corn which was unfit for fancy canned corn but they soon realized that $16.00 corn was a better paying proposition than $8.00 corn. The growers received an average of 82% Class A corn and 12% Class B during the season, which paid them $14.08 a ton, or $2.58 more a ton than the average price paid for corn at other corn canneries in the state in 1935.

PEA GRADING

During the spring of 1935, Mr. C. B. Gray, Manager of the Bloomsburg Packing Company contracted with 102 growers for approximately 600 acres of peas to be bought on a quality basis. No state or federal grades for peas had been established so it was necessary for Mr. Gray to specify in the contract that peas from which

Fancy canned peas could be processed would return $70 a ton, peas to produce Extra Standard quality in the can would return $60 and peas to produce Standard quality would return $40 a ton and that a state licensed inspector would determine this quality. Experimental work with brine and pressure testers brought one conclusion, ie, that any mechanical or chemical method of determining quality of raw peas must be more accurate and more speedy of operation than anything thus far devised, if to be used in determining quality on which payments to growers are based. The results of the work at Bloomsburg showed that it is probably just as accurate to judge the quality of peas by the thumb-nail test as it is to judge corn in that manner.

It was found that peas left uncut past the ideal maturity stage were graded lower by the inspector directly in proportion to the lateness of cutting. The inspectors had no check on the growers' field operations and yet the accuracy with which the grades checked with the time of actual cutting was sufficient proof that quality determination of peas is not only possible but also is practicable in a large commercial operation.

By cutting their peas early, many growers expected they were losing more yield per acre than they were receiving compensation for in the increased price per ton. The results of this work gave some indication of the loss in weight and the necessary compensation to make up for their loss.

The estimated average yield in the state during 1935 was approximately 2100 pounds per acre and in the Columbia County section about 2000 pounds. The growers who delivered early-cut peas which graded 76% Fancy quality, 18% Extra Standard and 6% Standard made a yield of nearly 1800 pounds per acre. Therefore it may be deducted from these figures that under the conditions of the 1935 crop year, growers who cut early had an average loss of between 200 and 300 pounds per acre. The average price which these growers received was $64.40, however, compared to an average state price of $53.80. For the reduced yield of 1800 pounds per acre these growers still received a greater income per acre ($57.96) than growers in this section whose average as one ton per acre for which they received $53.80.

GRAPE GRADING FOR JUICE PURPOSES -- 1935

For the seventh consecutive year the volume of grapes inspected for juice purposes made a new all-time high. In 1933 there were approximately 3-1/2 million pounds inspected, in 1934, 6-1/3 million and in 1935 slightly over 9 million pounds.

The manufacturers contract with the growers for U. S. No. 1 juice grapes with certain requirements waived, such as split berries and straggly bunches. The net returns to the grape growers are usually higher than the returns received from carlot or truck sales, since expenses of packing, selling and cost of containers are eliminated in selling to the processors.

SUPERVISION AND COST OF CANNERY PRODUCTS INSPECTION

This is a self supporting service under state supervision. All inspectors are trained and licensed by the Bureau of Markets and may be secured through the Federal-State Inspection Fund, S. R. Poole, Treasurer, Harrisburg, Penna. During 1935 the gross cost for each inspector amounted to $42.00 a week. From this amount $3.00 a week was paid the State Treasury to offset the cost of state supervision. The balance, ($39.00) was used to pay inspectors' wages and other expenses

such as compensation insurance, bonding fee for treasurer, and minor charges. A small balance left in the Federal-State Fund at the close of the season will be retained to meet the contingency of paying reporting expenses of inspectors in 1936.

During 1935 the average cost of inspecting 102 million pounds of cannery products amounted to 11½¢ a ton, compared with 13-2/3¢ in 1934, 12-2/3¢ in 1933, 18¢ in 1932 and 16¢ in 1931. At large plants the cost is considerably lower per ton and where the volume is light, the cost per ton is necessarily higher.

Additional copies of this report or further information regarding this grading service will be furnished upon request. Applications for the inspectors should be addressed to the Federal-State Inspection Service, Bureau of Markets, Harrisburg, Pa.

Because of numerous requests received by the Department of Agriculture, the following list of canners is attached to this report.

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PENNSYLVANIA CANNERS OF PRINCIPAL OF FRUITS AND VEGETABLES

APPLE PRODUCTS

Adams Apple Products Co.	Aspers	Littlestown Canning Co.	Littlestown
American Preserve Co.	Philadelphia	Lum Canning Co.	Chambersburg
Cruikshank Bros. Co.	Pittsburgh	Lutz & Schramm Co.	Pittsburgh
Greencastle Packing Co.	Greencastle	Musselman Co., C. H.	Biglerville
Knouse Corp.	Peach Glen	Orrtanna Canning Co.	Orrtanna
Heinz Co., H. J.	Pittsburgh	South Mountain Cannery	Orrtanna

SOUR CHERRIES

Bollinger & Sons, Samuel	Porters Sideling	North East Pres. Works	North East
Girard Canning Co.	North Girard	Ortanna Canning Co.	Orrtanna
Lum Canning Co.	Chambersburg	South Mountain Cannery	Orrtanna
Musselman Co., C. H.	Biglerville	Sunshine Packing Co.	North East

CORN

Bloomsburg Canning Co.	Bloomsburg	New Oxford Canning Co.	New Oxford
Chandlee, I. W.	Delta	Proctor, Edw. S.	Delta
Codorus Canning Co.	Codorus	Ruff, Edw. G.	Delta
Farmers Canning Co.	Felton, R.D. 2	Ruff, H. M.	Woodbine
Fife, S. M.	Airville	Shenk & Bowman	Newville
Flinchbaugh & Leber	Red Lion	Shriver, B. F.	Littlestown
Gemmill, J. T.	High Rock	Silver, Chas. B.	Christiana
Greencastle Packing Co.	Greencastle	Silver, W. Scott	Nottingham
Hillsboro-Queen Anne Coop.	Bloomsburg	Smith, Geo. L.	New Park
Hyson & Son, R. B.	Bridgeton	Smith, James T.	Fawn Grove
King & Son, Wm. P.	Peach Bottom	Snyder & Co., R. D.	Delta
Littletown Canning Co.	Littlestown	Summers Inc., Chas. G.	New Freedom
Lineboro Canning Co.	Lineboro, Md.	Winebrenner Co., D. E.	Hanover
Menges, Mm.	Kingsdale	Whiteford Packing Co.	Delta

MUSHROOMS

Brandywine Mushroom Corp.	West Chester	Mushroom Coop. Canning Co.	Kennett Sq.
Jacobs, Inc., Edw. H.	West Chester	Nat'l Mushroom Co. Of A.	Avondale
Keystone Mushroom Co.	Coatesville	Standard Mushroom Co.	Pomeroy

PEAS

Bloomsburg Canning Co.	Bloomsburg	New Oxford Canning Co.	New Oxford
Burgoon & Yingling	Gettysburg	North East Pres. Works	North East
Greencastle Packing Co.	Greencastle	Ruff, Edw. G.	Delta
Hanover Canning Co.	Hanover	Ruff, H. M.	Woodbine
Hillsboro-Queen Anne Coop.	Bloomsburg	Saulsbury Canning Co.	Hanover
Littlestown Canning Co.	Littlestown	Shriver Co., B. F.	Littlestown
Lineboro Canning Co.	Lineboro, Md.	Silver Co., Chas. B.	Christiana
Melrose Canning Co.	Hanover	Summers Inc., Chas. G.	New Freedom
Myers Canning Co.	Spring Grove	Winebrenner Co., D. E.	Hanover

STRINGLESS BEANS

Bollinger & Sons, Samuel	Porters Sideling	Melrose Canning Co.	Hanover
Burgoon & Yingling	Gettysburg	Morrow, G. B.	Roxbury
Chanceford Packing Co.	High Rock	Myers Canning Co.	Spring Grove
Codorus Canning Co.	Codorus	New Oxford Canning Co.	New Oxford
Fife, S. M.	Airville	North East Pres. Works	North East
Flinchbaugh & Leber	Red Lion	Reese & Co., H. B.	Hershey
Furman, J. W.	Northumberland	Ruff, Edw. G.	Delta
Girard Canning Co.	North Girard	Ruff, H. M.	Woodbine
Greencastle Packing Co.	Greencastle	Shenk & Bowman	Newville
Hanover Canning Co.	Hanover	Shriver Co., B. F.	Littlestown
Hungerford Packing Co.	Hungerford	Silver Co., Chas. B.	Christiana
Hyson & Son, R. B.	Bridgeton	Summers, Inc., Chas. G.	New Freedom
Littlestown Canning Co.	Littlestown	Winebrenner Co., D. E.	Hanover
Lineboro Canning Co.	Linesboro, Md.		

TOMATO PRODUCTS

Bollinger & Sons, Samuel	Porters Sideling	Menges, Mm.	Kingsdale
Bloomsburg Canning Co.	Bloomsburg	Melrose Canning Co.	Hanover
Burgoon & Yingling	Gettysburg	Miller Canning Co.	Monroeton
Chanceford Packing Co.	High Rock	Morrow, G. B.	Roxbury
Chandlee, I. W.	Delta	Musselman Co., C. H.	Biglerville
Cruikshank Bros. Co.	Pittsburgh	Myers Canning Co.	Spring Grove
Eby & Sons, F. L.	Littlestown	North East Pres. Works	North East
Farmers Canning Co.	Felton, R.D.2	Penns Manor Canning Co.	Bristol
Fife, S. M.	Airville	Proctor, Edw. S.	Delta
Flinchbaugh & Leber	Red Lion	Quarryville Canning Co.	Quarryville
Furman, J. W.	Northumberland	Reese & Co., H. B.	Hershey
Gemmill, J. T.	High Rock	Ruff, H. M.	Woodbine
Girard Canning Co.	North Girard	Saulsbury Canning Co.	Sells Station
Greencastle Packing Co.	Greencastle	Shenk & Bowman	Newville
Hanover Canning Co.	Hanover	Shriver Co., B. F.	Littlestown
Heinz Co., H. J.	Pittsburgh	Silver Co., Chas. B.	Christiana
Hillsboro Queen Anne Coop.	Bloomsburg	Silver, W. Scott	Nottingham
Hyson & Son, R. B.	Bridgeton	Snyder & Co., R. D.	Delta
Keyport Bros.	High Rock	Summers, Jr. Inc., Chas.G.	New Freedom
Krumrine & Harner	Littlestown	Sunshine Packing Co.	North East
Littlestown Canning Co.	Littlestown	Trimble Canning Co.	New Florence
Lutz & Schramm Co.	Pittsburgh	Weinfield & Sons, A.	Philadelphia
Lineboro Canning Co.	Lineboro, Md.	Whiteford Packing Co.	Delta
Matthias, C. M.	Littlestown		

END OF YEAR